

## **NARRATIVE**

TO: Cynthia Dorrough

FROM: Jada Levers

DATE: December 5, 2022

Facility Name: **SA Recycling – Doraville**  
AIRS No.: 135-00339  
Location: Doraville, GA (Gwinnett County)  
Application #: 28584  
Date of Application: September 13, 2022

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### **Background Information**

SA Recycling is located at 2800 Amwiler Road in Doraville, Georgia within the limits of Gwinnett County. Gwinnett County is considered attainment area for all criteria pollutants. The facility is considered a true minor source in regard to PSD Regulations because potential emissions remain below 250 tpy. Please note that this facility is not one of the 28 named source categories under PSD regulations. SA Recycling – Doraville is considered an automobile shredder recycling facility and will now be classified as a synthetic minor source with respect to Title V of the Clean Air Act because VOC emissions have the potential to exceed the major threshold limit of 100 tpy. The facility was recently permitted under Permit No. 5093-135-0339-B-01-0, effective March 30, 2020. In a letter received December 16, 2021, the facility reported the decommissioning of microfines dryer (Source Code: MFD1) and requested the revocation of Permit No. 5093-135-0339-B-01-0.

SA Recycling requires supplier certificates of the removal of refrigerants from all appliances, automobiles, air conditioners, etc. prior to delivery to the facility. Upon receiving the scrap materials, the facility inspects materials for any liquids as they are placed on the scrap pile. Scrap materials are conveyed into the automobile shredder at a maximum activity rate of about 171 tons per hour. Since this process generates large amounts of heat, cooling mist is sprayed to lower the temperature and suppress the particulate matter. The shredded materials exit the shredder and are conveyed to a metal recovery system to separate the magnetic fraction from the lower specific gravity materials. Employees then manually perform a final cleaning of the ferrous product by picking out any residual non-ferrous materials; the non-ferrous materials are processed through a water based specific gravity separation system.

### **Purpose of Application**

Application No. 28584 was dated September 13, 2022, and was received by the Division on September 19, 2022, to request a synthetic minor permit. US EPA requested the Permittee perform source testing on the shredder at a SA Recycling facility in Anaheim, CA which resulted in emission factors for VOC that were higher than originally recorded. Based on those test results, SA Recycling is recalculating emissions based on the updated emission factor resulting in potential VOC emissions exceeding 100 tpy. Therefore, in order to maintain minor source status under Title V, the facility proposes the automobile shredder output be

limited to 662,188 tons per year (tpy). With a shredder output limit of 662,188 tpy, facility-wide VOC emissions are calculated as 42.06 tpy, however the facility is located in Gwinnett County which makes the facility subject to Georgia Rule (tt) requiring a RACT plan for sources with VOC emissions exceeding 25 tpy. A Public advisory was not needed since equipment was not constructed or modified.

### **Updated Equipment List**

<b>Emission Units No.</b>	<b>Maximum Capacity</b>	<b>Description</b>	<b>Installation Date</b>	<b>Construction Date</b>
GS1		Automobile shredder	2019	2019

### **Emissions Summary**

Potential emissions calculation for all criteria pollutants are based on the previous Permit No. 5093-135-0339-B-01-0 and emission data reports provided in Attachment D of Application No. 28584. For particulate matter emission of the automobile shredder, the facility used an emission factor of 0.0169 lbs/ton. For VOC emissions of the automobile shredder, the facility calculated an emission factor of 0.13 pounds per long ton (lb/ton) of shredder output and 0.12 pounds per short ton (lb/ton) of shredder output.

#### **Facility-Wide Emissions** (in tons per year)

<b>Pollutant</b>	<b>Potential Emissions</b>			<b>Actual Emissions</b>		
	<b>Before Mod.</b>	<b>After Mod.</b>	<b>Emissions Change</b>	<b>Before Mod.</b>	<b>After Mod.</b>	<b>Emissions Change</b>
PM	16.20	18.07	+1.87	16.20	16.85	+0.65
NO <sub>x</sub>	8.60	8.60	0	8.60	8.60	0
SO <sub>2</sub>	0.05	0.05	0	0.05	0.05	0
CO	7.22	7.22	0	7.22	7.22	0
VOC	2.50	134.74	+133.24	2.50	42.06	+39.56
Max. Individual HAP	0.36	2.31	+1.95	0.36	0.94	+0.58
Total HAP	1.32	11.40	+10.08	1.32	4.32	+3.00

### **Regulatory Applicability**

#### **Georgia Rule 391-3-1-.02(2)(b) – “Visible Emissions”**

Rule (b) limits the opacity of visible emissions to not exceed 40 percent from any air contaminant source that is subject to some other emission limitation under 391-3-1-.02(2) unless the source is subject to another opacity standard in 391-3-1-.02. All process emission units at the facility are subject to rule (b).

#### **Georgia Rule 391-3-1-.02(2)(e) – “Emission Limitations and Standards Particulate Emission from Manufacturing Processes”**

Rule (e) limits particulate emissions from new manufacturing process equipment as follows:

$E = 4.1 P^{0.67}$ ; for process input weight rate up to and including 30 tons per hour.

$E = 55 P^{0.11} - 40$ ; for process input weight rate above 30 tons per hour.

Where:

E = emission rate in pounds per hour

P = process input weight rate in tons per hour

This regulation is applicable to the process emission units and other supporting equipment with the capability of emitting particulates. The facility will be subject to rule (e).

*Georgia Rule 391-3-1-.02(2)(n) – Fugitive Dust*

The facility is subject to rule (n) which states that all persons responsible for any operation, process, handling, transportation or storage facility which may result in fugitive dust shall take all reasonable precautions to prevent such dust from becoming airborne. The percent opacity from any fugitive dust source shall not exceed 20%.

*Georgia Rule 391-3-1-.02(2)(tt)- Emission of Nitrogen Oxides from Major Sources*

Rule (tt) requires facilities located in Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding and Rockdale counties with VOC emissions exceeding 25 tons per year from any source to apply reasonably available control technology (RACT) as approved by the Director. The facility-wide VOC emissions exceed 25 tpy, thus the facility submitted a RACT plan. The detailed RACT is provided as an attachment to Application No.28584 and a summary of the analysis is as follows:

After effectively eliminating options that lacked commercial demonstration, could not be solely used as an effective option, or required a fuel source thus creating emissions from combustion, the remaining technologies that were considered feasible to control VOC emissions are: installing a Regenerative Thermal Oxidization (RTO) system with a dust collector, baghouse, caustic tank, and an acid gas scrubber and employing best management practices.

RTOs are commonly used in application of metal shredding to control VOC emissions and work well in conjunction with a wet scrubber system. However, the RACT plan's cost analysis deemed these options as beyond the means of cost effectiveness for the facility as shown in Table 1 below.

**Table 1: RACT Cost Summary**

Description	Cost
Total Purchased Equipment Cost	\$4,172,479
Total Direct Installation Costs	\$2,722,074
Total Indirect Installation Costs	\$1,168,294
Contingency Cost	\$1,209,427
<b>Total Capital Investment</b>	<b>\$9,272,275</b>
Direct Annual Costs	\$104,991
Indirect Annual Costs	\$1,155,115
Total Annual Cost	\$1,260,106
VOC Destroyed	37.2
Cost Effectiveness (\$/Ton VOC Removed)	\$33,887

Therefore, the facility has proposed the most cost-effective option is to establish and maintain a comprehensive defluidization program for automobiles and appliances. The facility will have a Supplier Source Control Policy in place to ensure that materials received are inspected thoroughly and any substance likely to generate air pollutants are removed prior to materials entering into the shredder.

### **Permit Conditions**

Permit Condition 2.1 contains Georgia Rules (b) requirements of the opacity standards for process emission units at the facility.

Permit Condition 2.2 contains Georgia Rule (e) requirements of the particulate matter standards for the process emission units at the facility.

Permit Condition 2.3 limits the annual shredder output on the automobile shredder.

Permit Condition 2.4 subjects the facility to the provisions of Georgia Rule (tt).

Permit Condition 2.5 requires the facility to follow best management practices to remain in compliance with Georgia Rule (tt).

Permit Conditions 3.1 and 3.2 require the facility to comply with Georgia Rule (n) to minimize fugitive dust for the entire facility.

Permit Conditions 4.1 requires the facility to conduct routine maintenance.

Permit Condition 6.1 contains standard requirements for performance testing.

Permit Condition 7.1 requires the Permittee maintain a daily shredding operating log for the automobile shredder.

Permit Condition 7.2 requires the Permittee implement and maintain a scrap acceptance policy and comprehensive defluidization program.

Permit Condition 7.3 requires the Permittee maintain a monthly operating log of the output of both ferrous and non-ferrous materials from the automobile shredder.

Permit Condition 7.4 requires the Permittee maintain a log of the defluidization of automobiles and appliances before shredding commences.

Permit Condition 7.5 requires the Permittee use the monthly shredding output log for the automobile shredder to calculate the 12-consecutive month output in order to demonstrate compliance with the Title V avoidance limit in Condition 2.3.

Permit Condition 7.6 requires the Permittee to notify the Division if the facility exceeds one-twelfth of its rolling annual limit.

Permit Condition 7.7 requires the Permittee to report any exceedance of the limit in Permit Condition 2.3 to the Division within 15 days.

Permit Condition 8.1 explains the Division’s authority to determine additional control of emissions.

Permit Condition 8.2 requires the facility to pay permit fees.

**Toxic Impact Assessment**

A TIA was not required to be performed.

**Summary & Recommendations**

Based on the above considerations, I recommend Permit No. 5093-135-0339-S-02-0 be issued to SA Recycling located at 2800 Amwiler Road, Doraville, Georgia 30360. The facility will maintain a synthetic minor source status moving forward and will continue compliance responsibility and submitting reports to the Mountain District (Atlanta) Office.